

APPENDIX B

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the matter of

Application by BellSouth Corporation,
BellSouth Telecommunications, Inc., and
BellSouth Long Distance, Inc., for
Provision of In-Region, InterLATA
Services in Louisiana

CC Docket No. 98-121

**DECLARATION OF CARL SHAPIRO AND JOHN HAYES
ON BEHALF OF SPRINT**

I. Qualifications and Purpose of Testimony

A. Qualifications

I am Carl Shapiro, the Transamerica Professor of Business Strategy and Professor of Business and Economics at the Haas School of Business and the Department of Economics, University of California at Berkeley. I also am a founder of The Tilden Group, an economic consulting company. My qualifications are described in Appendix B, which includes a copy of my curriculum vitae.

I am John Hayes, a Senior Economist at The Tilden Group. I was previously employed at the U. S. Department of Justice, where I assisted in the Department's

evaluations of Bell company applications to provide in-region long-distance services. My qualifications are described in Appendix C, which includes a copy of my curriculum vitae.

B. Purpose of Testimony

We have been asked by Sprint to provide an economic and public interest analysis of BellSouth's application to provide in-region long-distance service in Louisiana. Professor Shapiro previously filed a declaration on behalf of Sprint in BellSouth's first application to provide in-region long-distance service in Louisiana. This declaration updates that prior testimony and responds to new evidence introduced by BellSouth. In particular, we respond to the revised affidavits of Mr. Denk, Dr. Banerjee and Mr. Wright offered by BellSouth in this proceeding. The testimony that we offer today is part of a broader project Professor Shapiro is conducting for Sprint to develop a framework for assessing Section 271 applications generally, and to evaluate the conditions of local competition in a number of states where such applications are anticipated.

The overall framework we utilize here for evaluating Section 271 applications is based generally on our experience in antitrust and regulatory economics, along with our understanding of the provisions of the Telecommunications Act of 1996 (the "Act") and our experience in studying telephone markets for many years. This is the same economic framework Professor Shapiro presented before this Commission last year on behalf of Sprint in response to BellSouth's Section 271 application for South Carolina, and we do not repeat it here; portions of Professor Shapiro's testimony in that docket pertaining to the general evaluation of Section 271 applications are included as Appendix A.

Our testimony in this proceeding focuses on the specific conditions in Louisiana. In particular, we evaluate the status of local wireline competition and interconnection in Louisiana. We also consider the economics behind BellSouth's assertion that Personal Communications Service (PCS) providers constitute facilities-based competitive local exchange carriers (CLECs) for the purpose of their Section 271 application. Our evaluation of the current conditions in Louisiana is based largely on the information available in this docket from BellSouth and from other interested parties, on testimony filed in Louisiana

Public Service Commission (LPSC) Docket No. U-22252 and on research conducted at The Tilden Group.

II. Current Local Wireline Competition in Louisiana is *De Minimis*

Significant actual local wireline competition would be the most convincing demonstration that local markets are indeed open. Such competition clearly has not yet arrived in Louisiana, and we fear it will be delayed by premature Section 271 approval.

By conventional market share measures, BellSouth maintains a dominant monopoly position in the provision of local exchange service in Louisiana. According to BellSouth, six facilities-based Louisiana CLECs were providing no more than 4,282 local exchange service lines for business customers (Affidavit of Gary M. Wright (“Wright Affidavit”), at ¶¶66). This is less than 1% of the more than 650,000 access lines that BellSouth offers its business customers (Wright Affidavit, at ¶¶61). Moreover, BellSouth says that Louisiana’s facilities-based CLECs offer fewer than 10 local exchange lines to residential customers (Wright Affidavit, at ¶¶66). This compares with the more than 1.6 million BellSouth access lines providing residential service in Louisiana (Wright Affidavit, at ¶¶61).

Of the six facilities-based CLECs BellSouth identifies in its brief, only one, KMC, is described as providing any facilities-based residential service at all, and its current capacity for serving residential customers is constrained by the fact that its two fiber optic networks in Louisiana are limited to the central business districts of their respective cities (Wright Affidavit, at ¶¶91). The minute amount of residential activity reported by BellSouth is clearly incidental for KMC, which described itself in a June 1998 press release as having been formed to “answer business, industry and institutional demand for clear, high-speed communication.”¹

Nor does facilities-based residential service seem to play any role in the immediate plans of any of the other five facilities-based carriers discussed in the brief. The Wright

¹ “Frank Wood Named KMC Telecom City Director”, KMC press release dated June 10, 1998.

Affidavit describes tariffs filed with the Louisiana Public Service Commission for four of these carriers. Of these four, only two, Shell Offshore Services Company (SOSCo) and Hyperion, have filed distinct residential prices (Wright Affidavit, at ¶¶101 and 108).² According to BellSouth, Hyperion will initially target business customers (Wright Affidavit, at ¶105). In its most recent 10-K report, Hyperion describes its targeted customers as “medium and large businesses, governmental and educational end users, and other telecommunications service providers, such as value added resellers (“VARs”), ISPs and IXC’s.”³ There is no mention of any plans to sell services to residential customers in the report. And SOSCo, a company that specializes in providing telecommunications services to rigs and platforms located in the Gulf of Mexico, hardly seems poised to conquer residential markets. On its web site, it describes itself as a carrier “providing telecom services to energy related companies operating in the Gulf of Mexico.”⁴

Facilities-based competition has certainly not arrived for residential customers in Louisiana, and, for business customers, it is only just beginning to show early signs of emergence in concentrated zones within large metropolitan areas. At this time, there is simply not enough experience with competition in Louisiana to conclude that BellSouth has sufficiently opened its local markets to enable competition. Thus, the evidence in this record leads us to conclude that it is premature to grant BellSouth Track A approval on the basis of existing competition.

III. PCS Cannot Yet Be Considered a Close Competitor to Wireline Services

BellSouth’s application again relies upon the existence of PCS providers in Louisiana as evidence of local exchange competition (BellSouth Brief, p. 9). We find that

² KMC, the one provider identified by BellSouth as serving residential customers, has not filed a distinct residential rate (Wright Affidavit, at ¶90). KMC charges \$31 for basic local service, more than twice BellSouth’s charge for basic residential service. BellSouth charges from \$10.97 to \$12.64 for a residential line with unlimited local calls and touch tone.

³ Hyperion 10-K report, filed with the Securities and Exchange Commission June 29, 1998.

⁴ Available at www2.shellus.com/sosco (visited July 21, 1998).

the competitive significance of PCS has not changed in any material respect since BellSouth's previous application in Louisiana, and therefore we again conclude that PCS has yet to establish itself as a significant direct competitor to wireline service. Consequently, the presence of PCS providers does not demonstrate that BellSouth faces significant facilities-based competition, nor that BellSouth's local markets in Louisiana are open to meaningful competition. In the absence of evidence that PCS is a close substitute for wireline service, at comparable cost, a public-interest evaluation of BellSouth's Section 271 application must rely upon the existence of actual and potential wireline competitors and the degree to which wireline local competition has been enabled in Louisiana.

Local competition will have arrived once competitive local exchange carriers are able to exert sufficient competitive pressure on BellSouth to erode its monopoly power. We are aware that Congress did not impose fully competitive local exchange markets as a prerequisite for BOC entry into in-region interLATA markets. However, the public interest does require that local competitors provide an actual commercial alternative to the BOC's local exchange service before Section 271 authority is granted.

From an economic point of view, for competitive carriers to place real competitive pressure on the BOC and to make inroads toward reducing the BOC's dominant market position, they must offer services that are (1) regarded by many customers as a close substitute for the BOC's local exchange services, and (2) comparable in cost to the BOC's local exchange services. PCS in Louisiana does not currently fulfill these requirements. PCS in Louisiana is a *complement* to wireline service for most customers; it is attractive as a *substitute* for wireline service to only a very small portion of customers in the local exchange market. Providers do not intend PCS to be a replacement for wireline service. They are not marketing PCS as a competitor to BellSouth's traditional wireline service, and there is scant evidence that consumers perceive PCS as a true substitute for wireline service. Market analysts do not view PCS as a competitor to wireline services, and there is no evidence that the introduction of PCS services has diminished local exchange revenues. Most importantly, PCS remains significantly more expensive than BellSouth local service for the overwhelming majority of Louisiana customers. For all of these reasons, the

Commission has consistently held that PCS does not currently compete with wireline local exchange service.⁵

In this application BellSouth mistakes vigorous wireless competition for local exchange competition. The fact that customers use PCS to make local calls does not mean that PCS is a viable commercial substitute for local exchange service. Actual local competition requires that BellSouth lose, or risk losing, customers and minutes-of-use to the PCS networks. The best evidence indicates, on the contrary, that PCS is currently used as a complement to wireline service, not a substitute for it. As a supplement to local exchange service, PCS may generate more minutes of use, and therefore more reliance, on BellSouth's local network, not less.

PCS in Louisiana today simply is not a practical economic alternative to BellSouth's local exchange service for the vast majority of customers. Consequently, PCS "competition" does relatively little to enhance consumer choice or drive retail rates towards cost. We are optimistic that PCS will eventually compete with wireline service for a significant number of local exchange customers. The steadily decreasing prices, rapid network build-outs, and increasing penetration rates all speak to that possibility. But the fact remains that PCS does not provide meaningful competition to wireline local exchange today.

Moreover, the rapid growth of PCS does little to show that BellSouth has developed pre-ordering, ordering, provisioning, billing and repair systems to support local competition on a significant scale. PCS providers, like cellular service providers, do not purchase unbundled network elements and thus do not rely on most of the systems that BellSouth is developing to enable competition. Instead, PCS utilizes BellSouth's previously existing and well-tested wholesale systems for ordering trunks. Ultimately, the

⁵ *Implementation of Section 6002(b) of the Omnibus Reconciliation Act of 1993, Second Report*, FCC-97-75, released March 25, 1997, p. 55. *Implementation of Section 6002(b) of the Omnibus Reconciliation Act of 1993, Third Report*, FCC-98-91, released March 25, 1997, p. 28. *In the Applications of NYNEX Corporation and Bell Atlantic Corporation for Consent to Transfer Control of NYNEX Corporation and Its Subsidiaries*, FCC 97-286, released August 14, 1997, at ¶90.

existence of PCS providers in Louisiana fails to demonstrate that BellSouth's local exchange markets are open and that competition is enabled

A. PCS is Targeted at a Niche of the Local Exchange Business

PCS providers in Louisiana are positioning themselves as competitors to *cellular service*, not as an alternative to traditional wireline service. Nor have PCS providers in Louisiana indicated plans to market their services as an alternative to BellSouth local service. Analysts and consumers alike perceive PCS as an alternative to cellular, not wireline, service.

Telecommunications analysts, providers and consumers regularly acknowledge the existence of distinct telecommunications markets and highly differentiated services: wireline local exchange services must be distinguished from access services and from wireless services. Congress explicitly excluded cellular and exchange access services from Section 271's definition of telephone exchange service. PCS, to date, is best considered as a new technology that augments competition within the wireless market.

PrimeCo and Sprint PCS, both PCS providers in the New Orleans market, emphasize in their advertisements the advantages of PCS over cellular, and make no reference to wireline service in general or BellSouth local service in particular. PrimeCo ads running in the New Orleans newspaper *The Times-Picayune* this month read, "This 4th of July Celebrate Our Nation's Independence From Cellular." Sprint PCS advertisements in New Orleans share the same message, describing PCS as "the clear alternative to cellular."⁶ According to BellSouth, MereTel recently affiliated with the Sprint PCS network (Wright Affidavit, at ¶61). Presumably, the marketing efforts through this

⁶ Sprint PCS documents describe the company as competing with other wireless providers, and in the future, competing with wireline services. "The Company's PCS business will directly compete with several other PCS providers in each of its PCS markets.... The Company also expects that existing analog wireless service providers in the PCS markets ... will upgrade their systems to provide comparable services in competition with its PCS system.... In the future, cellular service and PCS will also compete more directly with traditional wireline communications services over their [wireline] systems." Sprint Spectrum 10-K report, filed with the Securities and Exchange Commission on March 17, 1998.

affiliation will reflect a similar focus. These advertisements emphasize the extent to which PCS providers do not consider themselves to be an alternative to wireline service, but rather an alternative to cellular.⁷

The recent announcement by AT&T of its “Digital One Rate” service does not change our conclusion that PCS is not at the present time a significant direct competitor to wireline local exchange service (BellSouth Brief, p. 12).⁸ AT&T’s service is targeted at a small segment of customers who travel frequently and make a disproportionately high number of long distance calls.⁹ It will principally compete with other wireless services that offer a national footprint, such as Sprint PCS and Nextel. While the service may prove to be attractive as an alternative to wireline local exchange service for some customers in this highly mobile segment—and we emphasize that this has not yet been demonstrated in the market—it is unlikely to appeal to most local exchange customers because it is priced well above traditional wireline service.¹⁰ The cheapest available service under this new AT&T plan costs \$89.99 for 600 monthly minutes of airtime, seven times as much as the basic residential service price in Louisiana.¹¹

⁷ See the letters from Chairman William Kennard to Senator John Breaux and Representative W. J. Tauzin, dated July 7, 1998 which state: “As PCS can be used either to supplement or replace wireline service, a Bell Operating Company would need to demonstrate that PCS is used to replace, rather than merely supplement, the traditional wireline service offered by the Bell Operating Company. Such evidence could include...a showing that the marketing efforts of the PCS provider aim to induce such replacements. See also “Evaluation of the U.S. Department of Justice,” *In the Matter of Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Provision of In-Region InterLATA Services in Louisiana*, CC Docket No. 97-231, p. 7.

⁸ Sprint PCS recently introduced a similar plan. For \$50 per month, Sprint PCS offers customers who sign one-year service contracts 1,000 minutes of peak and off-peak airtime to use in any of Sprint’s service areas. See Bill Menzes, “Sprint Joins One-rate Skirmish,” *Wireless Week Online*, July 20, 1998 (visited July 23, 1998).

⁹ “Wireless Services,” by T.J. Lee, *et al.*, Salomon Smith Barney, Report No. 2700270, May 14, 1998, p. 2.

¹⁰ In addition, the AT&T plan is only available to customers who purchase a “digital multi-network phone” that works at 1900 MHz, 800 MHz digital and 800 MHz analog and sign a one- or two-year service contract. The available phones sell for \$199 and \$229. “AT&T Introduces One-rate Plans,” by Monica Allevan, *Wireless Week Online*, May 11, 1998. Available at www.wirelessweek.com (visited July 23, 1998).

¹¹ BellSouth charges from \$10.97 to \$12.64 for a residential line with unlimited local calls and touch tone.

Analyst reports repeatedly compare PCS to cellular on the basis of price and product offerings, with no mention of wireline services. The Telecommunications Research and Action Center (TRAC), a nonprofit consumer group, defines PCS as “a type of cellular service” in a report designed to advise consumers of their wireless alternatives.¹² A March 1998 Robinson-Humphrey report notes that Sprint’s PCS pricing, which continues to be the most competitive in the industry, encourages PCS and cellular competitors to lower their prices.¹³ Smith Barney predicts that PCS providers will continue to gain market share *within the wireless market*.¹⁴ None of these reports mention PCS’s position within or effect upon the wireline market. Where wireline substitution is mentioned in analyst reports, it is described as a new opportunity for wireless carriers.¹⁵

Moreover, although BellSouth argues that the “transition from wireline to wireless has already occurred for many thousands of consumers” in Louisiana, the evidence introduced by BellSouth on this point is minimal, and moreover, it is in conflict with the perceptions of most industry participants (BellSouth Brief, p. 12). BellSouth cites a PCIA-commissioned survey which reportedly found that “42 percent of all Americans would consider switching their local phone service to wireless,” (BellSouth Brief, p. 12). This statement is both incomplete and misleading. The cited survey actually found that 42 percent of all Americans would consider switching their local phone service to wireless *if the cost were similar*.¹⁶ PCS prices are in fact much higher than wireline local exchange prices for the overwhelming majority of Louisiana customers (see below).

¹² “A Consumer’s Guide to the Changing World of Cellular Telephones,” Telecommunications Research and Action Center, October 9, 1997, p. 30.

¹³ “PCS vs. Cellular: Quarterly Survey of Wireless Pricing - Industry Report,” by P.D. Walter *et al.*, The Robinson-Humphrey Company, Inc., March 27, 1998.

¹⁴ “Wireless Services Second Quarter Review - Industry Report,” by T.J. Lee, Smith Barney, August 27, 1997.

¹⁵ See “Bensche-Marks/Wireless Services -Industry Report” by J.M. Bensche, Lehman Brothers, Inc., Report No. 2639561, February 12, 1998 and C.M. Motz, *et al.*, Credit Suisse First Boston Corporation, Report No. 2690909, April 23, 1998, p. 3.

¹⁶ InsidePCIA, Vol. 1, Issue 4 (July 1998), p. 1.

In addition, BellSouth cites a study completed by M/A/R/C Research indicating that 26 percent of New Orleans PCS users rely on PCS as their primary telephone service (BellSouth Brief, p. 12).¹⁷ We do not find this study at all convincing in demonstrating that the presence of PCS erodes in any meaningful way BellSouth's monopoly position in local exchange services in Louisiana. First of all, the chief message to draw from this survey is that 75 percent of the customers surveyed said that the "main reason" they purchased PCS is because they sought a new or different mobile communications option, not a substitute for wireless service.¹⁸ If this study reveals anything, it is the extent to which PCS in Louisiana is perceived as an alternative to cellular, not wireline, service. Second, there are important reasons to be cautious about drawing any conclusions from this study. The reported data are based on a small sample of PCS users who responded to an advertisement. Only 202 customers were surveyed, which means that many of the reported statistics rely on fewer than 15 responses. For example, the reported 5 percent of customers who subscribed to PCS instead of adding a second wireline is based on 10 or 11 responses. Because all of the survey respondents were current PCS customers, the sample is not representative of Louisiana local exchange customers, and there is no way to reliably project the number of BellSouth customers that view PCS as an acceptable substitute for wireline local exchange service from this study. Moreover, the sample is a group of PCS customers who responded to an advertisement. This sample is likely to over represent enthusiastic PCS customers with an unusual story to tell. Some examples of these unusual

¹⁷ BellSouth also mentions a survey of PCS customers by Southern Media and Opinion Research, Inc. which shows, according to BellSouth, that PCS is used as a substitute for wireline service (BellSouth Brief, at note 13). There are serious reasons to question whether this survey is representative of PCS customers or, more importantly, of BellSouth customers. The survey methodology describes a process of telephoning interviewees on their PCS telephone numbers (*Local Alternative Use Survey*, pp. 1-2.) This methodology can only reach PCS customers who have their phones turned on, a group which we suspect is not representative of the overall population of PCS users. Because PCS customers pay for incoming calls, many customers do not turn their phones on unless they are making a call. These customers who chiefly use their PCS phone to make outgoing calls are likely to be under represented in the survey sample. Customers that typically leave their PCS phones turned on may be unusually likely to perceive their PCS phone as a substitute for wireline service.

¹⁸ Declaration of William C. Denk, *Louisiana PCS Study*, ("Denk Declaration"), "Graph 1—Main Reasons for Choosing PCS," p. 6.

stories are evident in the detailed follow-up interviews.¹⁹ In addition, the reported results are unclear in several important respects. For example, did the 6 percent that “Subscribed to PCS for initial service instead of wireline” subsequently subscribe to wireline service?²⁰ The text of the report indicates that “among those who subscribed to PCS for initial service instead of wireline, most have had PCS service for over three months now, so it appears they have no intention of getting wireline service.”²¹ There is, however, little apparent basis for this conclusion in the reported data.²²

At this time, there is only preliminary evidence suggesting that mobile wireless customers are beginning to use their phones as a substitute for wireline service. PrimeCo, for example, has reportedly expressed confidence that “the wireline minutes...will move to PCS.”²³ Some inconclusive indications of a trend toward competition with residential wireline service can be seen in the anecdotal evidence that PCS customers increasingly use their phones for personal purposes²⁴ and that they use them more often than cellular

¹⁹ For example, one of the respondents tells the story of how he replaced his wireline service with PCS to avoid paying a \$150 phone bill an ex-girlfriend ran up on his BellSouth account (M/A/R/C Study Transcripts, p. 63).

²⁰ In addition, did the 5 percent that “Have eliminated wireline service and replaced with PCS” eliminate *all* wireline service or only a second or third line? (Denk Declaration, “Graph 1—Main Reasons for Choosing PCS,” p. 6). Some of the customers in this category may use PCS for voice and still retain wireline service for internet access or fax. These customers are more accurately portrayed as using PCS to replace a second line.

²¹ Denk Declaration, p. 8.

²² The fact that a survey respondent has subscribed to PCS for a certain length of time clearly proves nothing about whether they also subscribe to wireline service. There is no question in the survey instrument which asks whether respondents that initially subscribed to PCS subsequently subscribed to wireline service. The follow-up interviews typically covered this topic, and thus they provide some support for the claim. However, only about one-third of the respondents who were asked to participate in follow-up interviews agreed to do so, despite being offered \$30 for their time. The low response rate and the financial incentive to participate and raise questions as to whether this follow-up sample is representative of PCS customers generally.

²³ Lowell McAdam, President and COO of PrimeCo, quoted in Jason Meyers, “Future Shock,” *Telephony*, March 23, 1998.

²⁴ “Unwired Americans ‘Tell All’ About How They’re Using Mobile Phones,” PrimeCo press release dated August 19, 1997. Available at www.primeco.com (visited July 21, 1998).

customers.²⁵ However this evidence is also consistent with PCS being used as a complement to wireline service, rather than a substitute. PCS customers may simply spend more time on the phone because mobility makes calling easier. As a complement, PCS would generate increased use of the wireline network rather than decreased use. Thus this preliminary evidence, even if accurate, is not sufficient to conclude that PCS competes for wireline minutes today.

Moreover, much of the preliminary evidence of wireline substitution pertains to second and third lines. Industry executives have stated that they expect to see substitution of wireline for wireless service over the next five years based on customers' interest in replacing their second lines.²⁶ We believe these statements are significant for two reasons. First and most importantly, they indicate that this substitution is expected to occur, but is not yet a significant factor. Second, they indicate that even this future competition with wireline may be limited to additional lines. Second and third lines are a limited segment of the overall local exchange market, accounting for about 13 percent of the 16.2 million residential access lines in BellSouth's region.²⁷ Because BellSouth would likely retain monopoly power in the overall market even if it faced significant competition for second and third lines, even convincing evidence of competition in this market segment would not be sufficient to conclude that PCS is a close competitor to wireline services. BellSouth has

²⁵ "PCS Subscribers Are Full of Surprises," PrimeCo press release dated August 19, 1997. Available at www.primeco.com (visited July 21, 1998).

²⁶ John Zeglis of AT&T, Duane Ackerman of BellSouth and Lowell McAdam of PCS PrimeCo are reported to have said that they expect to see up to 17 percent displacement of wireline by wireless within five years based on wireline customers' interest in replacing their second lines with wireless. "Wireless Telecommunications Services," by C.M. Motz, *et al.*, Credit Suisse First Boston Corporation, Report No. 2690909, p. 3. George Schmitt, president of Omnipoint Communications, has stated "If you are asking [whether] I am going to be able to take over Nynex in Manhattan, the answer is, 'No, not in the near term.' But I may be able to convince a lot of people that some of their lines could be wireless." (Quoted in Paul Shultz, "A Brief Overview of PCS," available at www.ntca.org/comm/business_tech/pcs.html [visited July 22, 1998].)

²⁷ Region-wide, BellSouth has 2.1 million "additional lines." "BellSouth Increases EPS 15.5 Percent in Second Quarter," BellSouth press release dated July 21, 1998. Available at www.bellsouthcorp.com (visited July 24, 1998).

not provided convincing evidence of competition even in this limited segment of the local exchange market.

Of course, over time PCS may indeed prove itself to be a viable direct competitor to wireline local service. Advances in wireless product quality, including PCS' greater clarity and security over cellular, are working to narrow the gap between wireless and wireline services. But a sizable gap still remains, and until PCS attains the mass market appeal of wireline local service it cannot exert significant competitive pressure on BellSouth. Industry analysts agree that while PCS may have the potential to compete against wireline service in the future, its current market position is as a competitor to cellular. Furthermore, there remains considerable uncertainty over whether PCS will ever grow to be a significant threat to wireline local exchange services. For example:

[I]t will take some time for wireless to ever displace the landline network. Some in the industry are hoping and planning for that. In the words of APC's Anne Schelle, 'replacing landline is in every PCS provider's business plan *down the road*.' Others don't see wireless ever becoming ubiquitous enough to threaten the wireline network. For the present, however, the competition between PCS and cellular is opening up markets that have been tied up in duopolies since their inception, and bringing with it the benefit of new features and lower prices.²⁸

B. PCS is Not Comparable in Price to Wireline Service

Even if the quality gaps between wireless and wireline technologies are narrowing, the price gap remains substantial. For the vast majority of residential consumers in Louisiana, PCS service remains far more expensive than BellSouth's wireline service, despite BellSouth's claims to the contrary. While PCS undoubtedly offers benefits that wireline service cannot offer, most notably mobility, until it can offer basic local exchange service at prices comparable to those offered by the BOC, it will not be a meaningful economic alternative to wireline service. And, as discussed above, until they offer a

²⁸ "The Great PCS Buildout: A Status Report," by Angela Littwin. *Telecommunications*, April 1997, emphasis added.

genuine economic alternative to wireline service, PCS providers will not erode BellSouth's local monopoly in Louisiana.

In this second Louisiana application, BellSouth again offers a study by National Economic Research Associates (NERA) comparing residential service (local and intraLATA toll) in the New Orleans area under BellSouth wireline prices with Sprint PCS and PrimeCo PCS prices.²⁹ BellSouth cites this study in support of its assertion that "PCS offerings are now a viable substitute for comparable wireline service on the basis of price alone," (BellSouth Brief, p. 13, emphasis in original).

Before turning to a discussion of the specific merits of this study, it is useful to understand the general market environment that underlies this claim. The overwhelming majority of BellSouth's residential Louisiana customers currently purchase unlimited local calling for a fixed fee of from \$10.97 to \$12.64 per month. PCS customers in Louisiana cannot duplicate this service option at any price.³⁰ The cheapest PCS plan available in New Orleans for residential customers with a "typical" calling volume costs \$99.99, with additional minutes priced at \$0.15 per minute.³¹ For most Louisiana customers, PCS is

²⁹ The study actually relies on telephone usage data for Birmingham, Alabama and asserts that usage in Birmingham is representative of usage in New Orleans. As these data were not placed into the record, we cannot evaluate the accuracy of this assertion.

³⁰ WirelessNorth, a PCS licensee operating in parts of North Dakota and Minnesota, is currently offering a PCS package that includes unlimited airtime minutes for \$75 per month. (Peggy Albright, "'Unlimited Minutes' Gains Interest: Wireless North Sees Service as Alternative to Landline," *Wireless Week*, February 16, 1998.) To the best of our knowledge, no other wireless operator is offering unlimited airtime for a fixed fee at this time.

³¹ The median calling volume in New Orleans is estimated at 636 outgoing minutes per month (Affidavit of Aniruddha Banerjee ("Banerjee Affidavit"), Table 6, p. 14). The total number of airtime minutes required to duplicate this calling volume with PCS service, assuming identical outgoing and incoming call distributions, would be 1272 minutes. Sprint PCS offers a package of 1000 minutes for \$99.99. Customers could potentially get cheaper service by purchasing "weekend only" minutes (Banerjee Affidavit, Tables 1 and 2, p. 5). While we have relied on the data supplied by BellSouth and presented in Dr. Banerjee's affidavit for much of our testimony, we note that some of these data contain obvious errors. For example, Table 6 reports that 4,320 of the observations had positive intraLATA usage. This is inconsistent with Table 8, which reports that 4,320 observations had no intraLATA toll use. This error, and others, lead us to question the accuracy of the data presented in the Banerjee Affidavit. As BellSouth did not put the underlying usage data into the record in this proceeding, we are unable to verify the accuracy of the data in Dr. Banerjee's affidavit.

emphatically not a cost-effective alternative to wireline service. This fundamental fact, of course, does not preclude the possibility that there is a market segment with calling patterns such that PCS is priced competitively with wireline service. The evidence that BellSouth offers in this proceeding should be understood as an attempt to measure the size of this potential market segment.

This most recent study by NERA is improved over the previous one by the introduction of evidence on the joint distribution of local and intraLATA toll calls. Unfortunately, we cannot agree with the principal conclusion of the study—that “as many as 7 to 15 percent of BellSouth’s local residential customers in New Orleans could consider switching to PCS PrimeCo on price grounds alone,” (BellSouth Brief, p. 14). Some straightforward corrections show that the cost of PCS exceeds the cost of BellSouth’s wireline service for more than 99 percent of all residential customers in New Orleans.³² In most cases, the PCS prices are far in excess of BellSouth’s prices. We address now several significant faults with the NERA study.

First, actual market observation and common sense provide powerful reasons to question the results from the NERA study. If it were true that nearly one-sixth of BellSouth’s customers could save money by switching to PCS, then we would expect to see clear evidence that many BellSouth customers were doing just that. There is in fact, as we described earlier in our report, only limited anecdotal evidence that BellSouth customers are switching to PCS. Moreover, there is no evidence that competition with PCS has had any impact on BellSouth’s sales. Quite the contrary, in fact, BellSouth added 700,000 residential access lines region-wide in 1997, a record increase of 4.6 percent from 1996.³³ As Table 1 demonstrates, BellSouth’s residential access lines have been increasing over time, and the growth rate appears to be increasing. These data do not provide any

³² The percentage of BellSouth wireline customers who could save money by switching to PCS is even lower on a statewide basis because PCS is not yet available to many BellSouth customers.

³³ *BellSouth Sourcebook*. Available at www.bellsouthcorp.com/investor/sourcebook97 (visited July 24, 1998).

indication that BellSouth is losing residential customers to PCS. Finally, if it were true that PCS prices were comparable to wireline prices for hundreds of thousands of Louisiana residential customers, as BellSouth asserts, then why have neither Sprint PCS nor PrimeCo found it worthwhile to target those customers with their marketing efforts?

Table 1: Residential Access Line Growth Rates in the BellSouth Region				
1993	1994	1995	1996	1997
3.0	3.7	3.2	3.3	4.6

Source: *BellSouth Sourcebook*. Available at www.bellsouthcorp.com/investor/sourcebook97 (visited July 24, 1998).

A fundamental problem with the NERA study is that it does not address actual market outcomes, but instead only considers price and a limited set of product attributes. This form of analysis is best-suited for markets where products were introduced too recently to draw conclusions from market outcomes; that is not the case here, however. PCS has been available in New Orleans at approximately the same prices for at least 9 months. The fact that there is only minimal evidence that customers are using PCS as a substitute for wireline service is a persuasive indication that the NERA study's conclusions are off the mark.

Second, the NERA study compares PCS prices to BellSouth prices for basic local exchange bundled with vertical features. This comparison would only be appropriate if local service cost \$25.94 and included multiple vertical features. In fact, basic local residential service in New Orleans costs only \$12.64. Moreover, actual market experience shows that when given a choice, customers in New Orleans prefer paying \$12.64 for basic IFR service over \$25.94 for a bundle of services. The NERA study is based on a faulty premise that all residential customers in New Orleans currently pay a significant premium to bundle vertical features with their local service. In fact, BellSouth's own data show that this is not true—fewer than 14 percent of BellSouth's customers choose to spend the

additional \$13.30 for these vertical features³⁴—and we are confident that few Louisiana customers would accept losing the option to purchase unbundled, basic local service without complaint. This flaw effectively renders the study's conclusions inapplicable to actual market conditions in Louisiana.

Third, the NERA analysis fails to adequately account for two additional costs associated with a consumer's choice to use PCS rather than wireline service. As this Commission has previously recognized, the cost of a PCS handset remains significant.³⁵ PCS phones regularly cost around \$100, and can cost as much as \$200 or more. Sprint PCS' and PrimeCo's Summer 1998 promotions in New Orleans offer a lowest handset price of \$99.99—for Sprint PCS, this price is after a \$50 rebate.³⁶ This is not an insignificant cost to PCS consumers.³⁷ In contrast, wireline customers can purchase handsets for less than \$10.³⁸ We are encouraged to see that Dr. Banerjee, despite his prior

³⁴ The Banerjee Affidavit shows that 13.53 percent of the residential customers in Birmingham, Alabama purchase five or more vertical services (Banerjee Affidavit, Table 9, p. 15).

³⁵ "The cost of a new [wireless] handset—as a component of the cost of switching providers—may thus act to undermine market discipline." FCC 98-134, *In the Matter of Personal Communications Industry Association's Broadband Personal Communications Services Alliance's Petition for Forbearance For Broadband Personal Communications Services*, released July 2, 1998, at ¶23.

³⁶ Based on Sprint PCS and PrimeCo PCS advertisements displayed in the New Orleans market in July 1998. Meretel's lowest price for a PCS phone is \$69.99 (Advertisement in the Baton Rouge newspaper *The Advocate*, dated July 22, 1998). Powertel is currently offering a \$49.95 phone (Powertel news release, dated July 7, 1998). Powertel does not offer PCS in New Orleans, although it does offer service in Louisiana as part of its service in the Memphis, Tennessee/Jackson, Mississippi MTA (Wright Affidavit, at ¶170). Service activation fees, if any, would constitute another cost of switching services. Neither PrimeCo nor Sprint PCS currently charge a service activation fee. BellSouth is offering free service activation until the end of July. BellSouth normally charges \$40 for service activation.

³⁷ The additional cost of a PCS handset is likely to be especially significant to the low-volume callers identified in the NERA study.

³⁸ Dr. Banerjee asserts that the sunk costs incurred to establish wireline service also must be "factored into the analysis" (Banerjee Affidavit, p. 24). See also the Reply Affidavit of Aniruddha Banerjee ("Banerjee Reply"), CC Docket No. 97-231, filed December 19, 1997, at ¶27. We agree, and we have considered these costs in our analysis. Because BellSouth already has a monopoly over residential local exchange service, virtually all local exchange customers have already incurred the sunk costs of establishing wireline service. These existing customers will only incur additional sunk costs if they switch to PCS. For existing BellSouth customers, therefore, the only sunk costs that are relevant to this proceeding are those incurred by subscribing to PCS. The sunk costs of subscribing to wireline local service are only relevant for customers that are purchasing initial service, and many of these initial customers will already own wireline customer premises equipment.

testimony to the contrary,³⁹ now apparently agrees with our conclusion that higher handset costs “could conceivably deter many wireline residential customers from switching to PCS,” (Banerjee Affidavit, p. 24). He does not, however, adjust his estimates to account for this additional cost of PCS.

In addition, NERA fails to include interLATA minutes in its calculations of PCS prices. PCS providers in Louisiana charge per minute airtime fees on interLATA calls *in addition* to applicable long distance charges.⁴⁰ This is equivalent to charging PCS users for access to long distance services. BellSouth local service, in contrast, allows users to make long distance calls at no additional cost—customers pay only the long distance charges. The exclusion of these charges seriously understates actual PCS prices. Given that the average Louisiana customer makes 230 minutes of interstate interLATA calls per month, these per minute charges add significantly to the PCS user’s monthly bill.⁴¹ For PCS to successfully compete with wireline service, it must be capable of providing the full range of local exchange services provided by BellSouth, including exchange access, at a competitive price. Once again, Dr. Banerjee’s testimony on this point has changed since the first BellSouth application to provide in-region long-distance in Louisiana,⁴² and he now evidently agrees with us that “long distance rates charged by interexchange carriers relative to the long distance...rates charged by PCS carriers will be important determinants of their

³⁹ Banerjee Reply, pp. 13-14.

⁴⁰ Flat-rate long distance plans, such as Sprint’s Toll-Free USA and Powertel’s “one price” long distance packages, do not change this fact. They simply substitute a flat rate for per-minute charges for long distance calls.

⁴¹ As an example, consider the PCS user whose combined local and intraLATA calls meet or exceed his PCS plan’s included minutes. That user will have to pay an additional per minute charge for every one of these 230 minutes of long distance calling. Sprint PCS’ lowest charge per additional minute is \$0.15, and PrimeCo’s lowest is \$0.25 (Banerjee Affidavit, Table 1, p. 5). These charges would add \$34.50 and \$57.50 to the user’s monthly bill respectively. Note also that this 230 average minutes is *interstate* interLATA only—it does not include intrastate interLATA minutes, which would increase the average user’s total interLATA minutes.

⁴² Banerjee Reply, pp. 14-16.

choices.”⁴³ Unfortunately, his latest testimony makes no attempt to account for this additional cost to PCS users.

Fourth, there appear to be several serious errors in the NERA study’s calculations relating to the treatment of outgoing and incoming minutes of use. The study shows that for *any* residential customer with more than 170 minutes per month (outgoing and incoming) of combined local and intraLATA toll usage, BellSouth wireline service is less expensive than any PCS plan offered by Sprint PCS or PrimeCo.⁴⁴ This is true regardless of the mix between local and intraLATA toll calls and regardless of the user’s combination of vertical features. The reason for the price differential above this calling level is that PCS providers charge per minute for incoming and outgoing calls, often with a certain number of minutes included in a monthly rate. BellSouth, on the other hand, includes unlimited local calling in its basic flat rate for residential users, only charges for outgoing toll calls, and offers an extended area service flat rate that caps intraLATA toll prices. The BellSouth customer will never pay more than \$49.50 per month, regardless of the number of local or toll calls or the basket of vertical features selected by the customer (within the five features included in the study).⁴⁵ PrimeCo offers a “Digital Choice 100” plan which bundles five vertical features with 100 minutes of outgoing and incoming airtime for \$24.99. Additional minutes are charged at \$0.35 per minute. At 170 minutes of airtime,

⁴³ Banerjee Affidavit, p. 22.

⁴⁴ This maximum number of minutes is reached for PrimeCo’s “Digital Choice 100” plan, identified in the Banerjee Affidavit as PrimeCo Plan 2 (Banerjee Affidavit, Table 5, p. 11). PCS providers generally do not charge for the first incoming minute. It is not clear whether Banerjee has attempted to account for this free minute, which will reduce PCS prices. Without access to the underlying usage data, we lack the necessary data to adjust for this PCS feature.

⁴⁵ The service cost is \$45.00 plus \$3.50 for the Federal subscriber line charge and \$1.00 for the Louisiana line charge. Dr. Banerjee reports a price for this service of \$48.50 (Banerjee Affidavit, p. 10 and n. 16). However, the loci of domination that he reports in Tables 4 and 5 are evidently based on a total service cost of \$49.50. We phoned BellSouth in Louisiana and confirmed that there is a \$1.00 Louisiana line charge. This charge was apparently omitted from Dr. Banerjee’s Table 3 (Banerjee Affidavit, Table 3, p. 6).

the PrimeCo package costs \$49.49, just under the price of any other package available from either Sprint PCS or PrimeCo.⁴⁶

The importance of this 170 minute figure is apparent when one reviews phone use in Louisiana. Table 12 of the Banerjee Affidavit provides data on the joint distribution of local and intraLATA phone use in Louisiana. It is our understanding that the data reported in this table are for originating minutes of use.⁴⁷ We will follow Dr. Banerjee in assuming that residential wireline customers make and receive approximately the same number of calls and that these originating and terminating calls are of roughly the same duration.⁴⁸ Thus the minutes of use reported in this table must be doubled to estimate the distribution of outgoing and incoming minutes. Based on the data in Table 12, we conclude that no more than 13.69 percent of BellSouth's New Orleans customers make fewer than 170 minutes (outgoing and incoming) of local and intraLATA calls per month.⁴⁹ It follows that wireline service from BellSouth is cheaper than PCS for at least 86 percent of BellSouth's New Orleans customers.

However, even this figure vastly overstates the proportion of BellSouth customers who could save money by switching to PCS. Careful examination of the data shows that this maximum airtime of 170 minutes is achieved only if a substantial portion of the minutes are used to make outgoing intraLATA toll calls (Banerjee Affidavit, Table 5, p. 11). The maximum airtime at which PCS service is cheaper than BellSouth wireline service decreases as local minutes are included in the mix of total minutes. This occurs because BellSouth charges on a per-minute basis for intraLATA toll calls but does not assess a per-minute charge for local calls. PCS users pay the same airtime charge for local and

⁴⁶ Banerjee Affidavit, Tables 1 and 2, p. 5.

⁴⁷ Telephone interview with Dr. Banerjee. See also Tables A1 and A2 of the Banerjee Reply and the accompanying description of the tables. These tables contain data on outgoing minutes of use and are comparable to the data presented in Tables 7 and 8 of the Banerjee Affidavit. We understand that Tables 6 through 13 of the Banerjee Affidavit contain data on outgoing minutes of use.

⁴⁸ Banerjee Affidavit, p. 4 and note 25.

⁴⁹ From Table 12 in the Banerjee Affidavit. $13.88 - 0.12 - 0.07 = 13.69$.

intraLATA calls. PCS is therefore more attractive to customers whose mix of calling is tilted more toward intraLATA calls. For example, a customer that used 100 minutes of local calls and 55 minutes of outgoing toll calls, for 155 total (originating and terminating) minutes of use, would be better off with BellSouth wireline service than PCS (Banerjee Affidavit, Table 5, p. 11).⁵⁰ Similarly, a customer that used 115 minutes of local calls and 3 minutes of outgoing toll calls would be better off with wireline service. Most importantly, PCS costs more than wireline service for *all customers* with more than 115 minutes of local phone use, regardless of the number of intraLATA calls they make or vertical services they purchase. We have some evidence on the proportion of BellSouth customers in New Orleans who fit this calling pattern from Dr. Banerjee's reply affidavit in the previous Louisiana application. Table A1 of the reply affidavit shows that roughly 4 percent of BellSouth's customers use 115 minutes or less of local calling per month.⁵¹ Thus BellSouth's own data show that no more than 4 percent of its customers have calling patterns such that they could save money by switching to PCS. Moreover, this 4 percent includes customers who purchased few or no vertical services, a deficiency which we now consider.

The NERA study once again compares PCS and wireline prices on the faulty assumption that all customers would buy a package of BellSouth's vertical services if they were to use wireline service. Dr. Banerjee has identified a package of BellSouth's vertical services that is comparable to the vertical services bundled with the Sprint PCS and PrimeCo services.⁵² The total cost of the package is \$25.94, vs. \$12.64 per month for basic IFR service. Thus the incremental cost of the vertical services is \$13.30. The NERA calculations are in fact only valid for customers who value the package of vertical services

⁵⁰ To be precise, this example should be stated in terms of a customer that used 100 minutes of outgoing and incoming local calls plus incoming intraLATA calls and 55 minutes of outgoing intraLATA calls. The distinction arises because wireline customers do not pay for terminating intraLATA calls.

⁵¹ Table A1 reports outgoing minutes of use. We have doubled the minutes reported in the table to estimate outgoing and incoming minutes (Banerjee Reply, p. 18).

⁵² Banerjee Affidavit, n. 13.

at \$13.30 or more. Because the vertical services are rather expensive relative to basic local service, the NERA errors in the treatment of vertical services are far from minor.

The NERA assertion that PCS is cheaper than BellSouth's wireline service in fact applies only to the following residential customer profile: a customer with extremely low calling volume in comparison with the average (less than 10 percent of the average and less than 15 percent of the median) who *nonetheless* places a *high* value on the package of vertical services! Clearly, this is a very small set of customers, especially considering that the vertical services are a *complement* to calling volume, i.e., are worth more, the more calls the customer makes.⁵³ Table 9 shows that only 13.53 percent of BellSouth's customers purchase five vertical features. Based on the data in Table 9 and our previous calculations, we estimate that fewer than one-half of 1 percent of BellSouth's wireline customers in New Orleans currently have a calling pattern and use of vertical services that could be purchased more cheaply from a PCS provider.⁵⁴

In sum, PCS is far more expensive than BellSouth wireline service for the vast majority of residential customers in Louisiana. PCS is less expensive than BellSouth wireline service in New Orleans only for customers making fewer than 116 minutes of local calls or 170 minutes of outgoing toll calls per month and who would nonetheless purchase five vertical features. Given that the *average consumer in New Orleans uses over 2000 minutes of local and intralATA calling each month and spends at least 94 minutes on the*

⁵³ BellSouth has not provided detailed information on the joint distribution of vertical features and minutes of use. However, from the data provided in Table 10 it is clear that local minutes of use are positively correlated with the number of vertical features. This relationship is most easily seen in the fact that average minutes of local use, conditional on the number of vertical features, is increasing in the number of vertical features. The average minutes of local use ranges from 464 minutes with no vertical features to 1,719 minutes with 5 vertical features (Banerjee Affidavit, Table 10, p. 16).

⁵⁴ The calculation is: 13.53 percent of 4 percent equals 0.54 percent (Banerjee Affidavit, Table 9, p. 15 and Banerjee Reply, Table A1, p. 18). This calculation assumes that vertical services are independent of minutes of use. In fact, we know that vertical services are positively correlated with minutes of use. See note 53. It follows that, conditional upon purchasing five vertical features, the percentage of customers with no more than 115 minutes of local use is almost certainly less than 13.53 percent. This calculation is therefore conservative, in that it likely overstates the actual percentage of BellSouth customers who could reduce their telephone costs by switching to PCS.

phone on local calls for every *one* she spends on an intraLATA call, and given that few very-low-use customers are likely to purchase a package of five vertical features, the calling and purchasing patterns underlying the NERA study are surely very rare.⁵⁵ The NERA study also fails to account for PCS phone prices and mistakenly excludes long distance minutes from its price comparisons. Contrary to the NERA conclusions, the data on calling patterns and pricing plans show clearly that PCS in Louisiana is less expensive than BellSouth's wireline services only for a very, very small portion of customers under very circumscribed conditions. Certainly PCS has not yet been shown to be sufficiently comparable in price to be a real option for most Louisiana consumers.

C. PCS Provides a Different Service Mix than Wireline Local Exchange

Even at comparable prices, PCS may not exert significant competitive discipline on substantial portions of the wireline local exchange market. Wireless service has traditionally been viewed as a complement to wireline service because it provides a different mix of services than wireline service. In addition to price, customers contemplating switching to PCS from wireline service must consider that they would lose the ability to connect to the Internet over their phone line and that they would no longer receive E911 service; they must consider that they would pay for every incoming call, rather than terminate calls for free;⁵⁶ and they must consider that they would give up their existing phone number and receive a new number. This Commission has repeatedly held

⁵⁵ The average outgoing local minutes of use in New Orleans is 1060 per month, and the average outgoing intraLATA toll minutes of use is 11. The median figures for each type of call are 636 and 0 respectively (Banerjee Affidavit, Table 6, p. 14). These figures need to be doubled to estimate average and median *outgoing and incoming* minutes of use.

⁵⁶ "A fundamental difference between wireline and wireless service is that currently a U.S. wireline telephone subscriber does not pay any additional charges to receive telephone calls, whereas most CMRS telephone subscribers pay a per minute charge to receive calls." WT Docket No. 97-207, *Notice of Inquiry In the Matter of Calling Party Pays Service Option in the Commercial Mobile Radio Services*, Released October 23, 1997, at ¶2. The fact that wireless customers pay to terminate calls is the main reason that wireless minutes-of-use—unlike wireline minutes-of-use—are disproportionately outgoing minutes. This fundamental difference in the way wireless and wireline phones are used is further evidence that PCS is not currently a substitute for wireline service.